Darwin on the Movements of Plants

Before the hypothesis of evolution can be deemed established, it will, of course, be requisite to bridge over two gaps which were long believed impassable, viz. the inter-val between organic and inorganic existence and the bintus between vegetable and animal life. It is the latter of these two supposed breaks in the chain of being whose reality Darwin has undertaken to disprove in his recent discussions of insectivorous plants, climbing plants, or chids fertilized by insects, and of the various modes of fertilization in the vegetable kingdom. In these treatines he has shown that very many of the capacities, aptitudes, and habits once regarded as specific distinctions of animal life are really shared by plants, and he has now supplemented the evidence upon this head In his new book describing The Power of Movement in Plants, by CHABLES DARWIN, assisted

by Francis Danwin (Appleton's). The chief object of this work is to describe and connect together several large classes of movement common to almost all plants. The most widely prevalent movement is essentially of the same nature as that of the stem of a climbing plant, which bends successively to all points of the compass, so that the tip revolves, This gyratory motion has been called by some botanists "revolving nutation," but the author of this volume fluds it more convenient to use the terms circumnutation and circumnutate. The precise nature of the movement is thus defined. If the reader observes a circumnutating siem, which happens at the time to be bent, we will say toward the north, it will be found to bond gradually more easterly until it faces the east; and so onward to the south, then to the west, and back again to the north. Now, had the motion been quite regular, the apex would have described a circle, or rather. as the stem is always growing upward. a circular spiral. As a matter of fact, it generally describes irregular, elliptical, or oval figures, which the author has succeeded in tracing and reproducing by means of an ingenious apparatus, whose principle and working will be found clearly described in the introduction. As regards the cause of all such bending movements, this has usually been ascribed to the in-creased growth of that side of the stem which becomes for a time convex. Mr. Darwin's researches, however, have led him to the conclusion that such increased growth on one side, then on another, is a secondary effect, and that the primary impulse to the movement of circumnutation must be sought in the increased turgescence of the cells, together with the extensibility of their walls, which need not be followed by increased growth, as in the case of parts provided with a so-called pulvirms—that is to say, joint or cushion, made up of cells that have ceased to increase in size from an early age. All the parts or organs in every plant even

before the stems have broken through the ground, and afterward, so long as they continue to grow-and some parts which are provided with pulvini or joints after they have ceased to grow-are continually circumnutating. Why every part of a plant, while it is growing, and in some cases after growth has ceased, should have its cells rendered more turgescent, and its cell walls more extensile, first on one side and then on another, thus inducing such bending movements, is not known. Darwie, however, would draw the inference from the phenomena in question that the changes in the cells require periods of rest. He goes on to show that circumnutation is of paramount importance in the life of every plant, for through its modification many highly beneficial or indispensable movements have been acquired. When light, for instance, strikes one side of a plant, or light changes into darkness, or when gravitation acts on a displaced part, the plant is enabled, in some unknown manner, to increase the always varying turgescence of the cells on one side, so that the ordinary circumputating movement is modified, and the part bends either toward or a new position, as in the so-called sleep of leaves.

The so-cailed sleep or night-turning inyctitropic) movements of leaves, are determined by the daily alternations of light and darkness. It is not the darkness which excites them to move, but the difference in the amount of light which they receive during the day and night: for with several species, if the leaves have not been brightly illuminated during the day, they do not sleep at night. They inherit, however. some tendency to move at the proper periods. independently of any change in the amount of light. The nyctitropic movements are. some cases, extraordinarily complex. of this book devoted to the subject. As regards the means of assuming their nocturnal position, it appears that when leaves and cotyledons (the organs which represent the first leaves) are furnished with pulvini, the sleep movement continues, as long as the leaf or cotyledon remains in full health; where, on the other hand, pulvini are lacking, it continues only while the part is growing. Cotyledons seem to sleep in a larger proportional number of species than do leaves. In some species the leaves sleep and not the cotyledons: in others the cotyledons, assume widely different positions at night.

are wonderfully diversified, and sometimes differ much in the several species of the same genus, yet the blade is always placed in such a position at night that its upper surface is exposed as little as possible to full radiation. There is no doubt that this is the object gained by these movements. It has been proved that leaves exposed to a clear sky with their blades compelled to remain horizontal suffered much more from the cold than others which were allowed to assume the vertical position, to which, at night, they inclined. Some curious facts are cited by Darwin under this head. It is pointed | plete anthology as to provide a relatively exout, for example, that in some species the petioles rise up greatly at night, while the planse draw close together. Obviously the whole plant is thus rendered more compact, and a much smaller surface is exposed to radiation. That the various nyctitropic movements of leaves result from modified circumputation seems conclusively demonstrated. In the simplest cases a leaf describes a single large ellipse during the twenty-four hours, but the movement is so arranged that the blade will is pronounced are not, and, without greatly enstand vertically during the night, and reassume its former horizontal position on the folowing morning. The course pursued differs from ordinary circumnutation only in its greater amplitude and in its greater rapidity late in the evening and early in the subsequent day. In other cases leaves and cotyledous deserios several vertical ellipses during the twenty-four hours, but in the evening one of them is increased greatly in amplitude until the blade stands vertically, either upward or downward. In this position it continues to cir- well known, like the minor Elizabethans, or cumputate until the following morning, where-

Two chapters of this volume are assigned to the highly important class of movements due to the action of a lateral light during the day. When stems, leaves, or other or of plants are placed so that one side is illuminated more brightly than auother, they bend toward the light. This nedetropic movement unquestionably results from the modification of ordinary circumnutation, and every gradation between the two trovements can be followed. Heliotropism prevalls widely throughout the vegetable kingdom, but whenever, from the changed habits of life of any plant, such movements become injurious or useless, the tendency is easily minated, as we see with combing and insectivorous plants. As regards apheliotropic novements or tendencies to turn away from the sun, these are comparatively rare in a well marked degree, excepting with aub-aeria roots. The position which leaves and cotyledons commonly occupy during the day, viz., more or less transversely to the direction of the light, is due to a tendency which Darwin would term disheliotropism. From the fact of leaves frequently rising a little in the evening, it ap-

upon it returns to its former posture.

to turn away from the earth). Again, the leaflets and cotyledons of some plants are known to be injured by too much light; so, when the shines brightly on them, they move upward or downward, or twist laterally, so that they direct their edges toward the light, and thus escape being injured. These paraheliotropic movements have sometimes been called diurnal sleep, but they differ wholly with respect to the object gained from those properly called nyctitropic, and in some cases the position occupied by the leaf during the day is the reverse of that taken during the night. The evidence adduced by Darwin indicates that these heliotropic, apheliotropic, diabeliotropic, and parabeliotrop to movements are all modified forms of circumnutation. The same thing may be said of another class of phenomena, viz., the geotropic, apogeotropic, and diageotropic movements, which represent, of course, so many tendencies to move toward, away from, or transversely to the earth.

It is impossible not to be struck with the resemblance between the movements of plants, described in this volume, and many of the actions performed unconsciously by the lower animals. The habit of moving at certain periods is inherited both by plants and animais. and is often exercised when the primary exciting cause is absent. Several other instances of similitude are here specified, but the most striking point of likeness is the localization of their sensitiveness in plants, and the transmis sion of an influence from the excited part to an adjoining party which consequently moves. Yet plants do not, of course, possess nerves, or a central nervous system; and Darwin infers that with animals such structures are not indispensable, but serve only for the more perfect transmission of impressions, and for the more complete intercommunication of the several parts. The most wonderful feature of plant structure, so far as its functions are concerned, is the tip of the radicle. The author points out that if this tip be lightly pressed, or burned, or cut, it transmits an influence to the upper adjoining part, causing it to bend away from the affected side; and what is more surprising, the tip can dis tinguish between two objects, one of which is slightly harder than the other, but which are simultaneously pressed on the tip's opposite sides. If, on the other hand, the radicle is pressed by a similar object a little above the tip, the pressed part does not transmit any influence to the more distant parts, but bends abruptly toward the object. Again, should the tip perceive the air to be moister on one side than on the other, it will transmit an influence to the upper adjoining part, which bends accordingly toward the source of moisture. In almost every case we can perceive the final purpose or advantage of the communicated movements. When we bear in mind that the course pursued by the radicle in penetrating the ground must be determined by the tip, we can understand why the latter organ-for organ it is-has acquired such diverse kinds of sensitiveness. Darwin deems it hardly an exaggeration to say that the tip of the radicle thus endowed, and having the power of directing the movements of the adjoining parts, acts like the brain of one of the lower

A Survey of English Poetry.

It is a new as well as large task which Mr. T. H. Wand, assisted by a number of dis-tinguished or competent men of letters, has undertaken in the four volumes collectively eptitled The English Poets, and published by Macmillan & Co. We have books in which the function of selection and collocation has been admirably performed; books that have garnered up the fruits of travel or excursion into the wide and varied field of English poetry. Some of these collections bear token of so much taste and insight, they attest such a clear perception of the truth and beauty which coexist in the best poetry. and such an unerring recognition away from the exciting cause, or it may occupy | aims and methods that they are unlikeiv to be superseded by new compilations of excerpts. Of such federious collections, which will doubtless long keep their place in the favor of discerning readers, we might name one executed on a large scale by an American, and one on a much smaller scale by an English hand. The specific object of such miscellanies is to please, not to instruct; to direct the reader's eye to the intrinsic charm of the poet cited, and not to assist us by big graphical and critical comments to take the historical point of view, to appreciate the relation of an author to his own age and to the general development of English poetry. This latter the most intricate examples are task however, has been essayed by not a few sta-duced and explained in a chapter dents of English poetry from Dr. Johnson to Taine; but their estimates are not only warped and weakened by the obvious incapacity of one man to appreciate with equal justice and penetration every part of a wide theme, but failure to illustrate and enforce the critic's opinions with an adequate array of concrete examples. It is true that Campbell undertook to portray the evolution of English poetry, combining personal notices of its conspicuous ornaments with copious citations from their works. But it is doubtful whether one man. and not the leaves; or both may sleep, and yet given though he were a poet possessing undeniable powers of a certain kind, could be Although the nyctitropic movements of plants trusted to pronounce on widely diversified poetic types and periods, none of which he had made a subject of special study. It is certain, noreover, that for many most important and interesting epochs of English poetry, and indeed, for the whole history of its development prior to the time of Dryden, Campbell at all events did not possess the exegetical appliances created by the antiquarian and critical research

> The object of the writers enlisted in the present undertaking is not so much to produce what by comparison should be called a comhaustive and authentic history of English poetry. Their book presents rather an historical conspectus of poets than a thesaurus of their compositions. Not that the critical estimate of a given author, and the investigation of his reation to his own time and to preceding as well as subsequent standards and processes, is not confirmed and exemplified by extracts, generally pertinent and sometimes copious; but, as a rule, the grounds on which a critic's judgment larging the scope of this work, could not be made entirely obvious to the reader. It should be said, however, that while the speelife purpose of the joint labors em-bodied in these volumes is, in the words used Matthew Arnold in the introduction, "to editor has not confined himself to the germinative or epoch-making writers. He has gleaned Lovelace and Lord Herbert of Cherbury, or Lodge and Dyer, or Peacork and Beddoes, As regards the scope of the work, it should be said that while it begins with Chaucer, it does of include the writings of any living poets, nor of any Americans, two, at least, of whom, Poeand Bryant, have written things whose exclusion from such a comprehensive survey of English verse is not easily accounted for. editor to double the space allotted to his work. This rule of exclusion is not applied, however, such compositions as "Comus," which is a

of the last two generations.

The second feature of this book, which deserves particular attention, is its cooperative character. It is not merely a history of English postry, but a history, every spech and aubperiod of which is assigned to one who may be designated as an expert, who has demonstrated his thorough knowledge of the author, on whose work he is invited to give indigment. An enumeration of some of the writers who have noid entertains no doubt that the elegy owed been desired to prepare estimates and make much of its success to the theme, and that the

discuss Gray and Keats. The on Collins is by Mr. Swinburne. The cassy Landor by Lord Houghton, that on Shakespeare by Prof. Dowden. To Mr. Mark Pattison are assigned Milton and Pope; to Mr. Goldwin Smith, Walter Scott; to Sir. Heary Taylor are committed Rogers, Southey, and Campbell; to the Dean of St. Paul's, Spenser and Wordsworth; and to Dr. Service, Burns. Mr. W. H. Pater writes on Coleridge, Mr. J. A. Symonds on Byron, Mr. F. W. H. Myers on Shelley, Mr. E. W. Gosse ou Moore, as well as on Suckling, Herrick, Waller, and the mob of gentlemen that wrote with ease; Mr. Austin Dobson on Congreve, Prior, and Gay, and Mr. G. Saintsbury on Thomson, Blatr, Young, Shenstone, Beattie, and others. Among the essays contributed by Prof. A. W. Ward may be mentioned those on Ben Jonson and on Dryden, and the editor himself has furnished, besides a remarkable study of Chaucer, estimates of Cowley, Cowper, Clough, and many minor ports.

We can only convey a faint idea of the grasp and penetration displayed in many of the concise critical estimates prefixed to these selections by culling somewhat at random a suggestive thought or happy phrase. Referring to the charge so often brought against Chaucer that he corrupted the English language with French words, Mr. Ward conclusively refutes t by a long extract from "Pier's Ploughman's Vision," showing that the verse of William Langley, written for the people in their own speech, contains a greater proportion of French words than do Chaucer's compositions. Another weighty piece of evidence on the same hend is cited, viz., that in 1362, when Chaucer was just entering manhood, the session of the House of Commons was first opened with an English speech. regards the difficulty still experienced by some persons in recognizing the smoothness and harmony of Chaucer's verse, Mr. Ward thinks that with the purification his text has undergone, and the ease with which the few es-sentials of Chaucerian grammar and prosody can now be mastered, no educated reader can fail, with a little patience, to discern that Chaucer used our language, not only with power and freedom, but with "a rythmic beauty that in five centuries not ten of his successors have been found able to rival." Of an almost utterly neglected poet, Stephen Hawes, Mr. J. Churton Collins treats with some minuteness, and deems the injustice which Scott and Campbell have done this writer quite inexplicable. He points out that Hawee's allegorical poem. "The Pastime of Pleasure," deserves attention not only as being the work from which Spenser drew many incidents and effects of cadence for the Faery Queen, but because it marks, with singular preeision, a cardinal epoch in English literature. "It is," says Mr. Collins, "the last expiring echo of mediævalism, and the first articulate prophecy of the Renaissance; while the auhor," he continues, "belongs to the old world and breathes its atmosphere, he belongs also to the new, for its first rays are falling on him." There is nothing specially novel or striking in Dr. Church's discussion of Spensor, and with Prof. Dowden's view of Shakespeare's songs and sennets the reader doubtless is familiar. It seems to us that the best papers on the Elizabethan poets are contributed by Mr. Gosse and Mr. Saintsbury. Mr. Gosse thinks the most curious and notable thing about Greene's poetry is that "its sylvan sweetness should have proteeded from a lawless bully, whose ruffled hair and long red beard were a beacon and terror to good citizens," and who was carried off in the thirty-second year of his rescally life by a surfeit of Rhenish wine and pickled herrings. Mr. Gosse considers that in the sustained elevation of his lyric verse Greene "comes very close to Barnefield, and through that mysterious and exquisite poet to the juvenile manner of Shakespeare." Barnefield's best poems, including the well-known ode, beginning "As it fell upon a day in the merry month of May," have until recently, as

bearing Shakespeare's name. In the volume which deals with the poets of the seventeenth century, from Ben Jonson to Dryden, Mr. Gosse has a charming cesar on Robert Herrick, "There is not," we are told. a sunnier book in the world than the 'Hesperides.' To open it is to enter a rich garden on a summer afternoon, and to smell the perfume of a wenith of flowers and warm herbs and ripening fruits." The atmosphere is Greek, and though Mr. Gosse can flud little evidence of direct Helienic study, he thinks that Herrick contrived to as-imilate into his work more of the temper of Theorritus and of the lyrists of the Greek Anthology than any English writer of entury. In a word, this English clargyman who, in the seclusion of a Devonshire vicarage, escaped the turmoil of the civil war, might claim to be the compatrict of those Italian singers of the early lighnissance who completely divested themselves of all trace of Christendom. In the easny on Dryden, Prof. A. W. Ward takes the point of view indicated by Mr. Matthew Arnold in the introduction, and from which few critics since the advent of Wordsworth and Shelley have diverged. We are reminded of Wordsworth's remark that there is not a single image from nature in the whole body of Dry-den's works, and Prof. Ward treats him rather as a great witthan as a poet. To the same general effect is the statement of Mr. Mark Pattison in his essay on Pope, that only by courtesy can any of the English versifiers from Dryden to pass, he says, was that "a compromise was ing writers adopted as the most telling form of utterance pressie verse, or metre without poetry." He is careful to point out, however, that some of these men, if not poets, were great literary artists, who showed how a coupler could do the work of a page, and a single line produce effects which, in the infancy of writing, had required sentences. Mr. Pattison thinks Pope a far more consummate master of the tenable couplet than was Dryden, but Prof. Ward upholds what may be called the orthodox opinion, thu, Dryden gave the heroic couplet a nervous strongth unequalled by any of his suc

Mr. T. H. Ward reminds us, had the honor of

In the volume devoted to the eighteenth century, two essays will be read with peculiar in-terest. One of these is Mr. Swinburne's estimate of William Collins. The critic denounces what he terms the "fatally foolish fashion" of coupling the name of Collins with that of Gray, as though they were poets of the same order or Mr. Swinburne considers that, as a lyric poet, Gray is "simply unworthy to sit at the feet of Collins," and hettrinks " the faufaronade and falsetto," distinguishable in Gray's notes ollow the course of one great contributary | were all but impossible to the finer touch of his precursor. He finds in Collins's odes a "purity of music," a "clarity of style" which he knows of no parallel English verse, from the death of Marvel to the birth of Blake. Here was at last a poet, save Mr. Swinburne, who was "content to sing out what he had in him-to sing and not o say, without a glimpsu of wit or a flash of eloquence," Elsewhere, in the same easay, we are old that, "strange as the paradox may sound, indispensible faculty of a singer is ability to sing," Collins is described by Mr. Swinburne as a solitary song bird among many more or absence of dramatic poorry is intelligible less excellent pipers and planists. "He could enough, for its admittance must have forced the put more spirit of color into a single stroke, more breath of music into a single note, than could all the rest of his generation into all the abors of their lives," And again: "Poetry was play only in name, or to songs from the dra- | his by birthright; to the very ablest of his com-The muse gave birth to Collins; she did but give suck to Gray."

Now let us see what Mr. Matthew Arneld has to say about the great elegiac poet of the last century tiray himself maintained, indeed, that the elegy was not his best work, and used to aver that the public would have received it as well if it had been written in prose. Mr. Ar-

expression, yet pure, perspicuous, and musical," and the evolution of the matter in such a piece as the "Progress of Poesy" is also pronounced by Mr. Arnold not less noble and sound than its style. The scantiness of Gray's productions is ascribed by Mr. Arnold, not to ill health or a fastidious, hypercritical taste, or to any natural sterility of the creative faculty, but to the want of a genial atmosphere, the failure of sympathy on the part of his contemporaries. "Born in the same year with Milton, Gray would have been another man; born in the same year with Burns, he would have been another man." Coming when he did. and endowed as he was, he was a man born out of date. "A sort of spiritual east wind was at that time blowing; Gray could not flower; he never spoke out." Not only was Gray's poetry stinted in quantity by reason of the age wherein he lived, but it suffered somewhat in quality also. The little we have of him is not free from faults entailed by the mistaken poetical standards and methods of his century. The difference, says Mr. Arnold, "between genuine poetry and the work of Dryden, Pope. and all their school, is briefly this—their verse is conceived and composed in their wits." whereas genuine postry receives at once its germination and its form in the soul." He goes on to show that the two kinds of poetry differ profoundly in their modes of language, and in their modes of evolution. To the poetic diction of the eighteenth century in general he applies Wordsworth's comment upon Dryden, calling "the language of men composing without their eye on the object." In like manner the evolution of the thought in eighteenth century poetry is an intellectual process, effected by ratiocination and antithesis. On the other hand, the process of evolution in genuine poetry is, we are told, "that of a thing which has been plunged in the poet's soul, until it comes forth naturally and necessarily." It is added that this sort of evolution, while "infinite-ly harder of attainment," is at once "infinitely simpler and infinitely more satisfying," giving us "the emotion of seeing things in their truth and beauty." Living, as he did, at a time when the standards and methods of Pope were impregnably established, it could hardly be expected that Gray, even in the little he produced, could be always pure in diction and true in Still, with whatever drawbacks, Mr. Arnold considers that he stands alone, or almost

merit) in his age." In the fourth and last volume, which covers the period from Wordsworth to Sydney Dobell one of the most remarkable papers is the estimate of Coleridge by Mr. W. H. Pater. Both as regards the substance, the arrangement, and the style, this is an exquisite composition. We can make but two short extracts. Discussing the "Ancient Mariner," Mr. Pater terms it "a flower of mediæval or later German romance. growing up in the peculiarly compounded atmosphere of modern psychological speculation, and putting forth in it wholly new qualities." In his final summing up occurs this sentence: "A warm poetic joy in everything beautiful, whether it be a moral sentiment or only the flakes of falling light-this joy visiting him, now and again, after sickly dreams, waking or sleeping, as a relief not to be forgotten, and with such a power of felicitous expression that the infection of it passes irresistibly to the reader-this is the predominant quality in the matter of Coloridge's poetry, as cadence

alone (for Collins has something of the like

is the predominant quality of its form."

The essay on Wordsworth is by Mr. T. H. Ward, the editor of this anthology. The best thing in it is the condensed summary of the udgment which Coleridge pronounced upon his friend's genius. Those who would be helped to take a serious and just measure of Wordsworth's place in English poetry will inleed do well to note how firmly Coleridge iaid his hand on many characteristic defects of style and matter, yet how loyally he pointed out the height on which, in spite of all shortcomings, his friend really stood—"the freshness of his thought, the certainty of his eye, his unswerving truth, and, above all, his magnificent gift of imagination." In the notice of Walter Scott, by Mr. Goldwin Smith, there is no marked divergence from the current judgment, which indeed seems tolerably well settled. The critic can find nothing in Scott's lyrical poetry "deep or spiritual; the same fresh, joyous, unphilosophizing character runs through all his works." He seems disposed to accept Ruskin's high estimate of Scott regarded as a painter of nature, though Mr. Smith's opinion on this head is much more soberly expressed. accessories." The fact that he "never thought grounds on which Ruskin commends Scott.

outrasting him with those who perpetually infuse human emotions into their landscapes. In the essay on Moore, Mr. Gosse takes a middle ground between the fervid admiration which the Irish lyrist once received and the almost complete eclipse of his reputation in our own day, when critics have often ventured to treat him as a kind of lyrical parish-an outcast at whom every one is welcome to fling a stone, Mr. Gosse thinks it still possible to read "Lalla Rookh" with pleasure, and even with a sort of 'indulgent enthusiasm," and that in one only of his writings Moore attained a positive perfection of style. He refers, of course, to those homely and sentimental lyrics which, under Churchill be styled poets. What had come to the name of the "Irish Melodies," have ondeared themselves to thousands of hearts, effected between poetry and prose, and the lead- and form a permanent and precious part of English literature. It is, in the critic's opinion, upon fifteen or sixteen of these songs that Moore's fame mainly rests, but "though the support has become der, it is lifted beyond all further fear of disintegration." No doubt Moore's Melodies belong to that minor and less ambitious school of vocal singing. Mr. Gosse reminds us that "no tune of the most transcendant aptness could throw fresh charm into the finest stanzas of 'appeals to the inner ear alone in that silent singing which is a sweeter thing than any knowledges not only that Moore is a master in that ritual of which Burns is the high priest-in which words of a commonplace character are so strung together as to form poetry easily grasped and enjoyed by the ear-but that sometimes the Melodies reach a higher pitch when

their author is inspired by his genuine and burning love of Irish liberty. In the essay from which we have just quoted Mr. Gosse recalls that when Moore wrote his life of Byron in 1830, and easually spoke of Mr. Shelley as a finer poet than himself, the world admired his generous modesty, but smiled at this exaggerated instance of it. If we except Mr. Matthew Arnold, who speaks with comparative reserve, sourcely one of the men of letters who have contributed to this work fails to attent his ardent concurrence in the high estimate of Shelley which has for some time been current. and which Prof. Shairp almost alone has ventured of late years to challenge. Mr. F. W. H. it must yet once again be repeated that the first. Myers is an enthusiastic votary of the Shelley cult, and his attempt to defend the poet from the charge that his language is vague and incoherent, that he contributes nothing to our fund of thought, to the common faith and creed of men, that he has, in short, merely added to their aspiring anthem one keen, melodious cry, is extremely vigorous and eloquent, if not wholly satisfactory. It is seldom that Mr. Matthew Arnold permits

> himself to speak with so much fervor as he has here spoken about Kests. He admits that, for the architectonics of poetry," the faculty which ripe. "His 'Endymion,' as he himself well saw, was a failure, and his 'Hyperion,' fine things as it contains, is not a success." But in shorter compositions, where the matured power of moral interpretation and the high constructive faculty which go with complete poetic devel-

be among the English poets after my death. He

s, says Mr. Arnold; he is with Shakespeare. There is, of course, an obvious objection to the method followed by the editor of this workto the treatment of each poet by one who has made the author and his age a subject of special study. The grounds and the weight of this objection are forcibly pointed out by Mr. Matthew Arnold in the introduction. He admits that the idea of tracing historic origins and relationships could not be absent from a compliation like the present, and that, such an aim once ac cepted, the poets to be exhibited would naturally be assigned to those persons who are known to prize them highly. But we are reminded that the very occupation with an author, and the business of exhibiting him, disposes us to affirm and amplify his importance. It follows that, in an anthology compiled upon the principle pursued in the book before us, we are sure of frequent temptation to take the historic estimate or the personal estimate. and to forget the real estimate. It is the specific purpose of Mr. Arnold's introduction to avert such misconceptions-not only to define, but to Illustrate by concrete examples, the difference between such estimates-and to help the reader to recognize for himself the essential artistic worth of a poetic composition. M. W. H.

THE NEW PROGRAMME AT HARVARD.

On several accounts, peculiar interest attaches to the report now published of the President of the Harvard University for the last academical year. A good many reforms have either been carried out for the first time, or have received further extension, and some new changes have been made in the requisites for admission to the several departments, in the arrangement of studies, and in the method of enforcing discipline.

Of late, a vigorous effort has been making oward a reconstruction of those professional schools which, on one ground, graduates of the college proper have had reason to regard with considerable disfavor. Not long ago it was possible for men to gain from the university a degree of bachelor in law, medicine, or divinity, and pose afterward as exponents of Harvard education, who not only had never studied in the academical department, but who were not graduates of any college whatever. In the law school, for instance, students whose opportunities of instruction had been confined to a common school were permitted to enter and after a nominal residence of eighteen months to secure a diploma, which meant absolutely nothing considered as a outher of a liberal education. Thus, in 1870, fifty-five per cent, of the bachelors in law were not graduates of any college. The result was that Harvard graduates were indisposed to attend lectures in a department which made cheap the dignity and influence pertaining to the name of their university, and in the year 1872-73 the number of them entering the law school actually fell to twenty-two. In the medical school the case was worse. As late as 1871 only five per cent, of the men receiving a degree had spent six terms in medical study, only twenty-one per cent, were graduates of any college, and it was notorious that, as regards a knowledge of the humanities, about four-fifths of these bachelors in medicine could not have passed the examination for admission to the freshman class in the academical department. Again, in 1870, the proportion of bachelors in divinity who were also bachelors of arts was only fourteen per cent, of the whole number.

In these respects a signal and wholesome hange has taken place, although it must be added that much remains to do. At present no person can enter the law school without undergoing an examination, although this test is still inferior to that imposed on candidates for the freshman class in the college proper. The period of study, too, for a law degree has been engthened from eighteen months to three years, and technical proficiency is verified by omewhat rigorous investigations. Naturally the effect of these restrictions has been to diminish the number of applicants, but the university may be congratulated on its tardy determination to prefer a good school to a large ne. We observe, also, that in the medical department, where an examination for admission was first held in 1877, the scope of inquiry into an applicant's attainments has been coniderably widened within the year just passed. In this school a four years' course of study has very properly been substituted for a three years' course, and students are no longer suffered to obtain a degree without pass-"Many of Scott's pictures are examples of pure ing annual examinations in their pro-landscape painting without the aid of historical fessional studies. We regret to see that no examination for admission is yet frending a soul to nature," and shows no trace | exacted in the divinity school, and that conse of Wordsworth's pantheism, is one of the main | quently out of twenty-four students now in residence, eight are not graduates of any college at all, and could not, in all likelihood, enter the freshman class in the college proper. The one rule to be observed by a self-respecting university-and to this rule it is plain that Harvard is

tending-is to refuse admission into any of its

post-graduate departments to all persons who

are not graduates of some college in a list of

specified institutions, whose degrees are known

to mean something. In France no one would

dream of conferring a diploma of bachelor in law or medicine on one who was not already a bachelor of arts. It is time that the oldest American university should uphold, in all its branches, at least as high a standard of liberal acquirement as is that of the French republic The displacement of prescribed by elective studies has been carried so far at Harvard that at present it may be said that, with the exception of the principles of rhetoric and exercises in composition, all studies are elective after the freehman year. Here, as in the Scotch universities, the first twelvementh is still devoted in a large degree to work that ought to have been done at school. But a great change for the better has already been effected, and there lyrics which, of set purpose, dedicates itself to is no reason why the freshman year, also, should not ultimately be included at Harvard in the elective system. The traditional humanities have lost less ground than was expected Shelley," and that the highest tyrical poetry under the optional scheme. Out of 568 students in the three upper classes during the last academical year, 218 elected Latin and 177 Greek. It is likewise satisfactory to learn that 236 chose to study natural history, 194 history, and 162 political economy. It is by no means equally commendable that 160 should have made French a special object of their attention in college, and that no less than 262 give a large part of their time to the acquirement of the German tongue. We are of the opinion that a liberally educated man, if he is worth his sait, can pick up a modern European language for himself, and that it is a foolish waste of precious opportunities to do a lesson from the Germans, who expect such facile accomplishments to be gained at school, if anywhere outside of a man's private study, We suspect that a majority of those who " elect ' French or German at Harvard belong to the entegory known as passmen at Oxford. They are fellows that want to shirk, and would like a degree to stand for as little hard work as possi-Harvard, of course, has its share of such persons, who are of no use to any seat of learning, except so far as the fees they pay help to swell the academical income. We are giad to see that at this college rich and idle men who

These who appreciate the difference between a university and a grammar sensol will be gratified to learn that at Harvard theagstem of compulsory attendance and marks at recitation, and of deductions for infringements of academical rules-a system which degraded the oresides at the evolution of works like the professor into a pedagogue, and what should 'Agamemnon' or 'Lear,' Keats was not have been a self-regulated young man into a professor into a pedagogue, and what should goody-goody or perverse and discouraged boy has now entirely passed away. Some traces of it lingered a year ago, but henceforward all of the four classes will be allke at liberty to attend lectures and recitations as regularly or as infrequently as they think fit, subject only to term disheliotropism. From the fact of leaves and make of the desired to prepare estimates and make of the subject only to selections in the case of certain poets will author exhibited in the evening, it appears as if disheliotropism had to conquer. during the middle of the day, a widely prevalent to prepare estimates and make of its subject only to selections in the case of certain poets will author exhibited in the evening to the power of the authorities to interpret when a selections in the case of certain poets will demonstrate how effectively this part of his subject only to the power of the authorities to interpret when a selections in the case of certain poets will demonstrate how effectively this part of his subject only to the power of the authorities to interpret when a selections in the case of certain poets will demonstrate how effectively this part of his poetry. One else in English poetry, with his own contemporaries, Gray may be said to prepare a substitute in the ovening, it appears the power of the authorities to interpret when a selections in the case of certain poets will demonstrate how effectively this part of his poetry. One else in English poetry, with a subject only to eliminate the authorities to interpret when a subtor exhibited in the ovening, it appears the power of the authorities to interpret when a subtor exhibited in the ovening to the power of the authorities to interpret when a subtor exhibited in the ovening to the power of the authorities to interpret when a subtor exhibited in the ovening. If the power of the authorities to interpret when a subtor exhibited in the ovening is substituted in the case of certain poets. A natural flow of the power of the authorities to interpret when a subtor exhibited in the ovening is substituted in the ovening. If the power of the authorities to interpret when a subtor exhibited in the power of the authorities to interpret when a subtor exhibited in the power of the authorities to interpret when a subtor exhibited in the power of the authorit

pay roundly for the luxury.

lectures or conferences as interesting and use-

ful as possible. The new programme of Harvard, for which those who wish well to the university cannot too warmly thank the present officers, may be summed up in a word. It is to treat undergraduates like men, and not like boys, and to make every one of the degrees an unchallenged guarantee of substantial acquisitions.

AN OLD BOOK.

Information Concerning the Manners and Cus toms of the Ancient Israelites. Wilson Lusk of Monmouth, Ill., has an octavo volume printed during the reign of Charles IL of England. It is minus one cover, but in other respects, barring the discoloration of two centuries, is in excellent preservation. Its title page is as follows:

MOSES AND AARON. CIVIL AND ECCLESIASTICAL RITES Used by the ancient HEBREWS, observed, and at large openet, for the clearing of many obscure Texts thorowout the whole

SCRIPTURE. Wherein Likewise is Shewed what Costoms the HERREWS borrowed from Beattlen be poole: and that many Beattlenist Costoms, originally, have been unwarrantable infinitions of the HERREWS.

THE TWELFTH EDITION. By THOMAS GODWIN, B. D. LONDON: Printed by Richard Hodgkinson, living on Clerken-well Green; and are to be sold by William Jacob, at the Black Swan, next Berhard's lin, in Holborn.

M. D. C. LXX. II. We make the following extract from this quaint ld book, from chap, vi., entitled:

CEREMONIES COMMON IN ALL CAPITAL JUDG-MENTS.

CEREMONIES COMMON IN ALL CAPITAL JUDGMENTS.

The party accused was placed on some high blace, from whence he might be seen and heard of all the people. Set Naboth in capite populi, on high among the people.—I. Kings, 21.9.

The judges and the witnesses did (when sentence was pronounced) put their hands upon the condemned person's head and said: Sangus taus super capit tusin. Thy blood be upon thine own head." Unto this the people had reference, saving. "His blood be upon us and our children."—Matt. 27, 25.

The place of execution was without the Gates: the maisfactors were had thither by two executioners, termed by the Rabbinschazani, haccomeseth, Speciators of the Congregation.

When the maisfactor was led to execution, a cublick Crier went before, saying: "Such a one is going to be punisht with such a death, because he has committed such or such an offence, at such a time, in such a place, and these, N. N. are Witnesses thereof. If any, therefore, knoweth anything which may do him good, let him come and make it known.

For this purpose one was appointed to stand at the door of the Consistorie, with an handker-thief or linea-cloth in his hand, that if any person should come for his defence, he at the door swinged about his handkerchief; upon the sight whereof, another standing in readiness a pretty distance off with an borse, hastened and called back the condemned person; Yea, if the Maisfactor had any further plea for his own purgation, he might come back four or five times, except he spake vainly, for the discerning whereof two of those whom they termed wise Men were sent with him to observe his speech on the way.

He was exhorted to confess, that he might have his portion in the world to come: Thus Joshua exhorted Achan, Josh., 7, 19:

ave his portion in the world to come: Thus oshua exhorted Achan, Josh., 7, 19: My son, give, I pray thee, glory anto the Lord God of cast, and make connection unto Him, unto whom chan answered (verse 200; indeed, I have sinned against to Lord God of Israel, and thus have I done.

In the time of execution they gave the male-factor Gramum theris in calicerini, a grain of frankincense in a cup of wine, to cause a dizzi-ness in the condemned person's head, that thereby he might be less sensible of the pain. St. Mark calleth this cup "wine mingled with myrrhe."—Mark, 15, 23.

This was done after the manner of the Jews; but the sitters in mocheric mingled vinegar and gail with it Matt., 27, 31. att. 27, 34.

ithewise they gave him a second cap in deriston, is they test a specific and filled it with vinegar, and it on a reed .- Mait, 27, 48.

when they less a shenge, and filled it with vinegar, and put to a reed—Mait, 27, 48.

Saint Mark, in the first cup, mentioneth the custome of the Jews, which in itself had some shew of compassion, for the ground of this custome was taken from that, Prov., 31, 6: "Give strong drick unto him that is ready to perish." Saint Matthew mentioneth onery their wicked mixture contrary to the received custome; so that one Evangelist must excound the other. This first cup was so usually given before execution, that the word calix, a cup, is sometimes in Scripture put for death itself: "Father, If it may be, let this cup mass from me."

Lastly, the Tree whereon a man was hanged, and the Sword wherewith he was stoned, and the Sword wherewith he was strangled, they were all buried, that there much the no evil memorial of such a one, to say. "This is the Tree, to is is the Stone, this is the Sword, this is the Napkin whereon, or wherewith, such a one was executed."

COL. OLCOTT AND MME, BLAVATSKY. Their Position to India from the Ingenuous

desire to obtain the credit of a university di-ploma with a minimum of effort are made to

A large boughet of artiflers II weeks, made by the Keng Berley, to prove of some form of some form of the keng Berley, to preve of some form in the some form of the keng Berley, to preve of some form of the keng Berley, to preve of some form of the keng Berley with the rooms of some form of the keng Berley with the rooms of the keng berley with the rooms of the keng berley with the rooms of the keng berley at the

WITCH WOMEN'S ARTS

niles across country from here, in the barren

Their Charms and Magic Spells in Demand by Lovers and Haters. REINHOLDSVILLE, Pa., March 4 .- A few

bills near the old Dunkard Cloister, is the unpretentious cabin of Dame Barbara Fischer, Her reputation as a woman who works wonders by mysterious charms, spells, potions, and prayers s of wide extent. She is small in stature, aged. and gray, yet keen, sharp, bright, and there oughly independent. She will allow no one to encroach upon her rights, and a short time ago the attention of this entire community was directed to a serious misunderstanding she had with her son, who charged Dame Fischer with having played a prank on a pet animal of his. She indignantly denied that she had in any way interfered with his dog, and had never caused the dog to chase his tail until he dropped dead with exhaustion. The old woman had her friends, and so did the young farmer. They freely took sides. Subsequently the wells of several neighbors became exhausted at a time when there was no drought, and the cows of other old Dunkard neighbors gave bloody milk. Those persons who had taken sides with the son were all very suddenly more or less affected in one way or the other, which gave rise to great speculation and gossip in all the country around. Generally speaking, the neighbors of the old woman are superstitious, and believe in all sorts of unnatural relics of witcheraft and black art. Hence they are ever ready to believe any story, however monstrously absurd, and they attach much importance to every move the old woman may make. To the strange visitor Dame Fischer will have little to say and less to do. Any one wearing the garb of a city resident and claiming her slig any, thing outside of the most ordinary aliment will meet with a very cool reception. The applicant for her ald in anything extraordinary must be known to her personally, or must be known to her personally, or must be historically anything extraordinary must be known to her personally or must be be nown to her personal and anything extraordinary must be known to her or all species of bruises, burns, nervous afflictions, "wild fire," St. Anthony's dance, feton, hypochondria, melannolia, and knutred aliments. Dame Fischer will lend prompt assistances to all who may personally apply and exhibit their affliction. In a majority of instances the old woman uses no medicines, but depends upon her "charm" to beai. This charm, or, as the natives herabout denominate it, "pow-wowing," consists of a simple breathing upon the wound or sors; a blowing over it, as it were, accompanied by a scatter touch, a wave of the hand, and a silent prayer. The conditions for operating are implicit faith in the mode of treatment, a perfect surrender of all thoursh antagonistic to the operator, and a scrious promise to follow out all directions that may be given. Radical cures are then promised, and strange as it may appear, this class of "wonder workers" have favorable reputations all overthis section of the State for having helped many sufferers to absolute health. By far the most interesting feature of this class of backwoods healing art is that park which proteends to work magic spells, charms, curses, conjurations, and bad luck generally one endices and objects of hate, Persons in need of black-artisled of this kind travel for miles to the "hex" who has the best reputation. She generally lives alone with her cats, her herbs, her cards, and her "mysterious book." Not far from this village, over toward Lancaster, lives an old woman safe, and ascence of men hunting gold at midularit. The mid ascence of men hunting gold at midularit. The men were requisited farmer when he will see the him, because s